

REMARKS

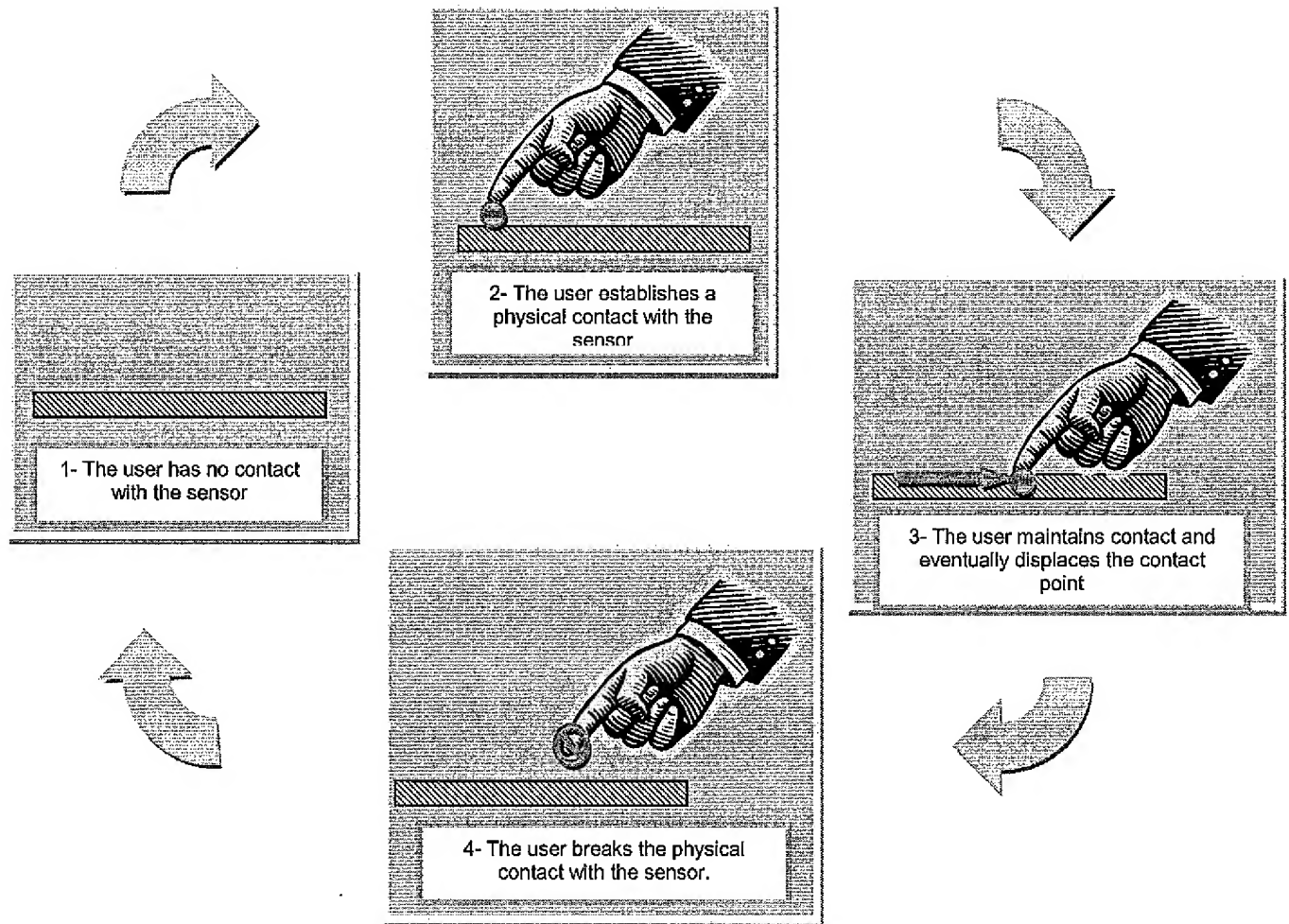
Applicant appreciates the time taken by the Examiner to review Applicant's present application. Applicant has amended Claims 24 and 27. Applicant respectfully submits that no new matter has been added by this amendment. Thus, Claims 24-47 remain pending. This application has been carefully reviewed in light of the Official Action mailed January 8, 2008. Applicant respectfully requests reconsideration and favorable action in this case.

Rejections under 35 U.S.C. §103

Claims 24-30 stand rejected as anticipated by U.S. Patent No. 6,104,317 ("Panagrossi") in view of U.S. Publication No. 2006/0028455 ("Hinckley"), Claims 31-47 stand rejected as anticipated by U.S. Patent No. 6,104,317 ("Panagrossi") in view of U.S. Publication No. 2006/0028455 ("Hinckley") and U.S. Patent No. 5,059,048 ("Sirkin"). Applicant respectfully traverses this rejection.

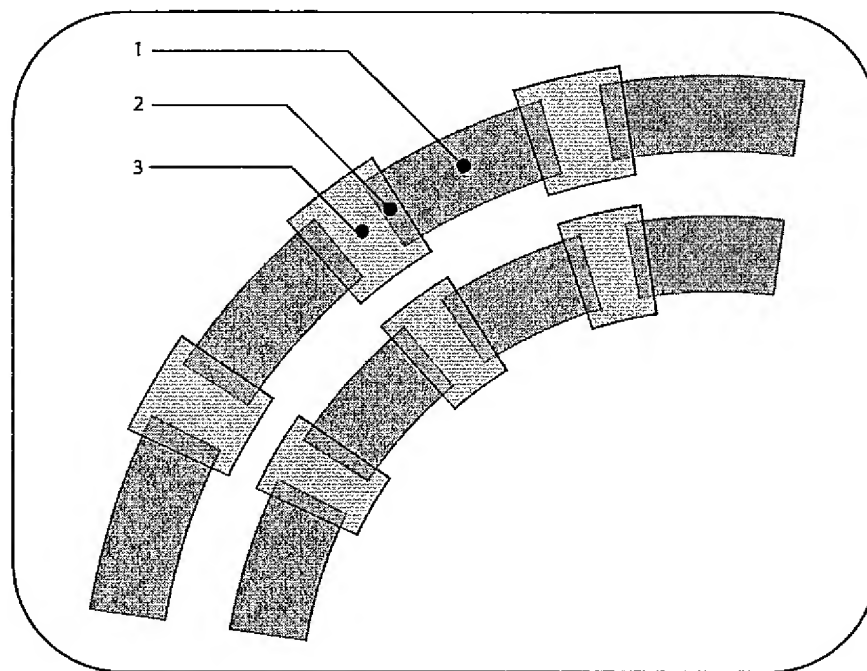
Claim 24 as amended recites a method for an interface for data entry, comprising detecting an input with respect to the interface wherein detecting the input comprises detecting a press in a first zone of a set of zones, wherein at least one of the set of zones is non-contiguous with at least one other of the set of zones and at least one of the set of zones differs in shape from at least one other of the set zones; detecting a release in a second zone of the set of zones and detecting a movement between the press and release, wherein detecting the movement further comprises detecting entering or leaving one or more of the set of zones between the press in the first zone and the release in the second zone and contact is maintained with the interface between the press in the first zone and the release in the second zone; and associating a semantic meaning with the input based on a set of semantic meanings associated with the first zone, wherein the semantic meaning is selected from the set of semantic meanings associated with the first zone based on the second zone. Claim 27 recites similar limitations.

Thus, in one particular embodiment input from sensors may be utilized as described in the following diagram:



- 1- Thus, in one embodiment at the start there is no physical contact between the sensor and the user.
- 2- Detecting an initial press: In one embodiment, the user establishes a physical contact with the sensor at a precise location. For example, in one embodiment, the sensor may report this change of state through a **StartContact** event. This event may carry the location where the contact takes place on the sensor.
- 3- The user displaces the location of physical contact. For example, in one embodiment, the sensor may report this change of state through a **EnterZone** event. This event may carry the location where the contact is currently on the sensor.
- 4- Detecting a release: The user breaks the physical contact at a location. In one embodiment, the sensor reports this change of state through a **StopContact** event.

In conjunction with a sensor a set of keys may be presented to the user. During contact by a user the location of contact with respect to these keys may be utilized. For example, below is an example of one particular embodiment of a layout of a set of keys with interkey zones shown in red (e.g. zone 3) while the key zones (e.g. zone 1) are shown in blue (other embodiments may not have these interkey zones, may have different layouts, may have more or fewer keys zones, the layout of the zones may be different, etc.).



In one embodiment, a first zone is where a user makes contact in an initial zone (e.g. sent by the StartContact event) and releases contact in a second zone. When contact is released (e.g. a StopContact event is received), the semantic meaning can be determined based upon the key zones (e.g. the key zones where contact was initiated and the release took place)

While Panagrossi and an embodiment of the present invention may use the location of the initial contact (also referred to as pen down in Panagrossi) and a key to identify semantic

meaning Panagrossi uses different methods (e.g. metrics and algorithms) than embodiments of the present invention to determine such semantic meaning.

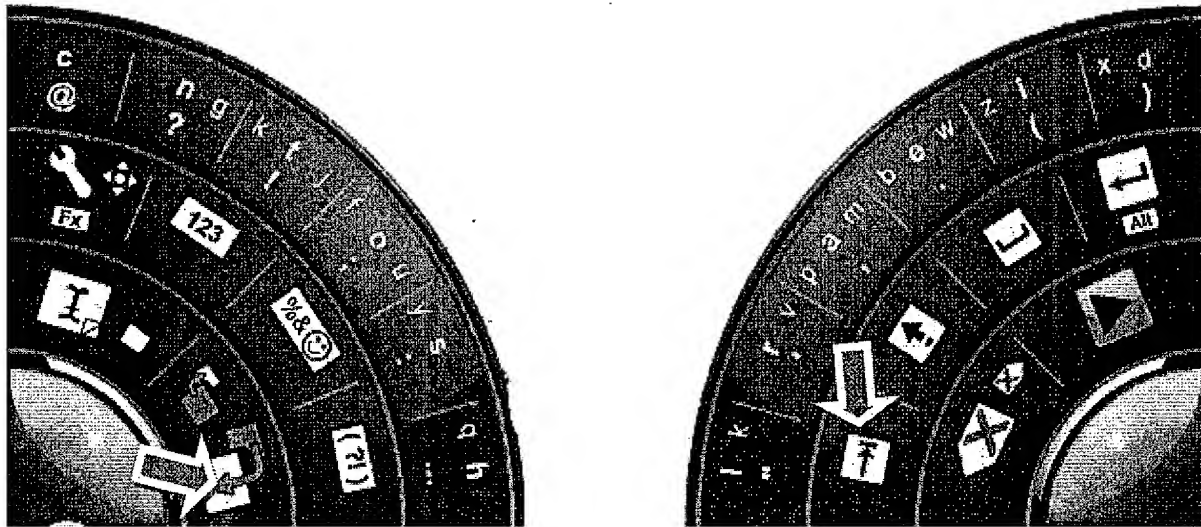
Panagrossi directly uses the information of the translation of the contact point that occurred between pen down and pen up in order to define an angle and a displacement. Panagrossi uses the relative displacement between the pen down and pen up represented by ΔX and ΔY (See, Panagrossi Figure 6 and Col 2 Line 63). Panagrossi does not correlate the location of pen down to the layout of the keys.

In contrast to Panagrossi, embodiments described in the present application do not use the notion of angles. In one embodiment, the location of pen down and pen up are used to associate each of the pen down (e.g. contact) and pen up (e.g. release) with zones selected from zones of a layout and according to the sequence of those two zones a semantic meaning may be determined. In light of the previous explanations it can be seen that in one embodiment, different information and logic than Panagrossi is utilized. While they all have features to normalize user touches into a semantic meaning, the process is different.

Panagrossi because they use measures of distance, do not allow making non-orthogonal keyboards, both in their operation and in their design. Thus it seems as if all the keys must be aligned in the same direction and the direction of the label of each key is not influenced by the relative position of the key among the other keys.

Embodiments of the present invention, however, may allow non-orthogonal or irregular keyboard designs and shapes, with different symbols assigned to each key, or a different number or functionality of these symbols.

Here is one embodiment of an input device which may be constructed using one particular embodiment of the present invention. Note that this embodiment has two separated input devices:

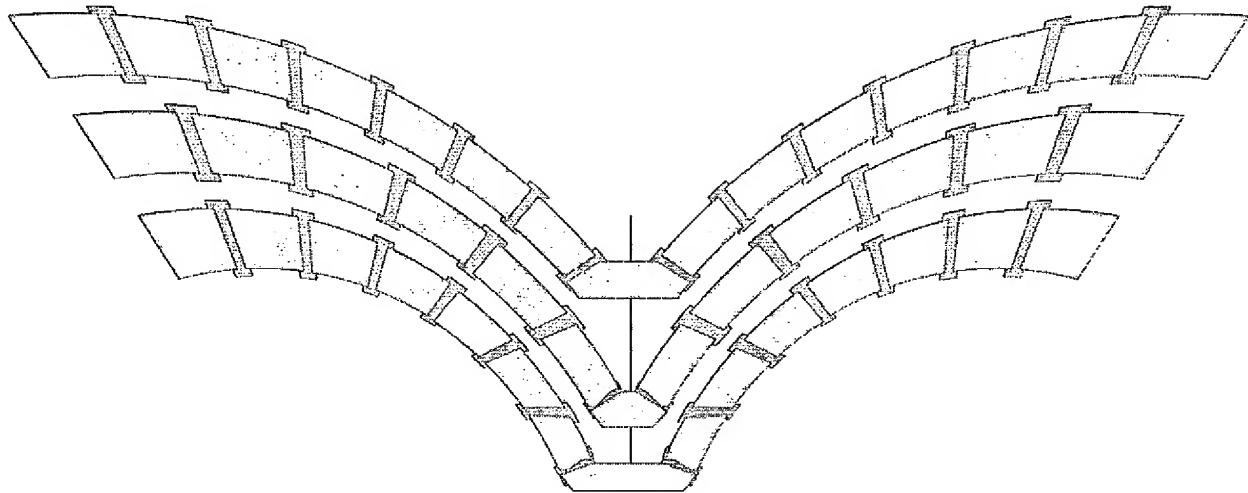


Note that both the red arrows on the keyboards are (direction wise) rotated by 90. This is possible because embodiments of the present invention base semantic meaning on initial key press and a key release and how keys are arranged in the keyboard layout, not directional input with respect to a single key as does Panagrossi.

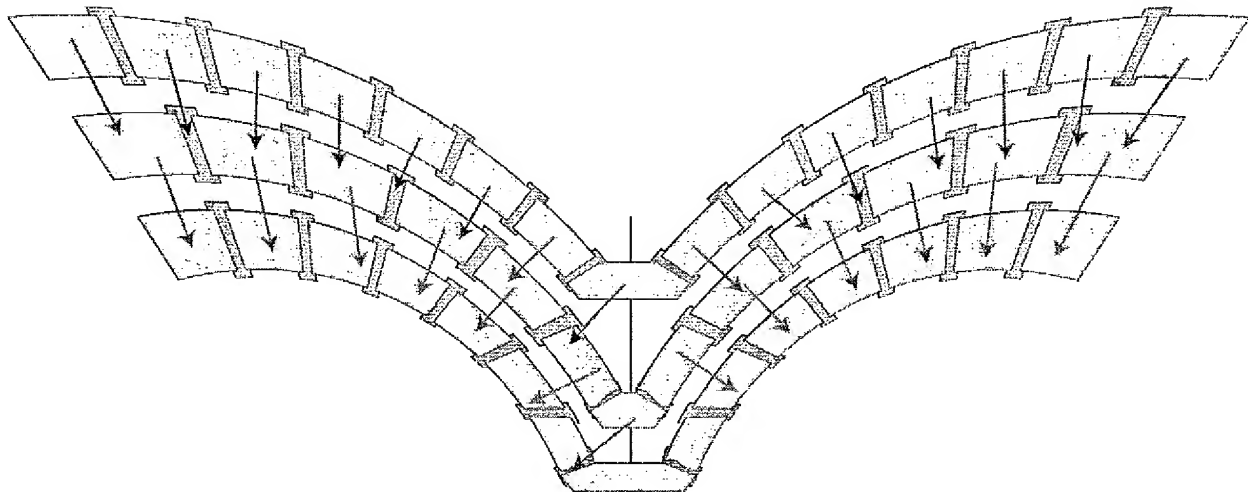
Thus, there are a number of advantages presented by embodiments of the present application over Panagrossi, including:

- creation and powering of irregular keyboard or other interface layouts
- easy to design such layouts
- better ergonomics that follow human anatomy

IRREGULAR KEYBOARD LAYOUTS - Compared to Panagrossi embodiments of the present invention permit the creation of irregular keyboard layouts or differently shaped keys where the movements activating each key may be determined based on the geometrical relation of the key with the surrounding keys



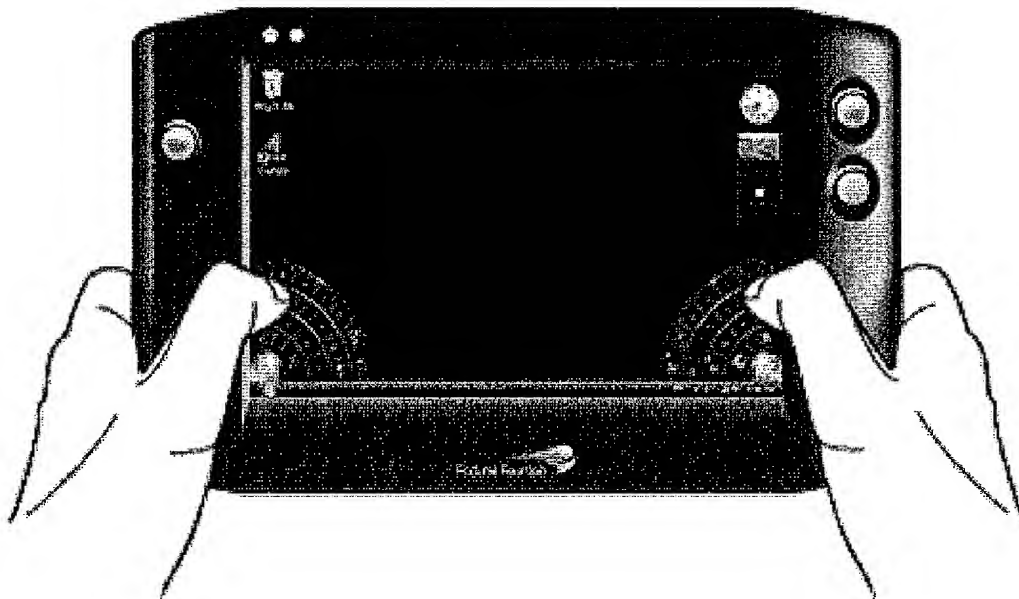
Example of an irregular keyboard layout.



Example of movements activating the down direction note that in the same row the same direction can be activate by movement opposed by almost 180 degrees.

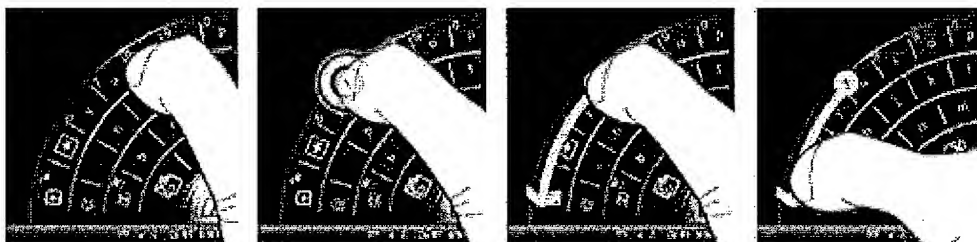
EASY CREATION OF THE LAYOUTS – While the layouts of embodiments of the present application may be irregular, their creation does not require more time or complexity than the layouts for Panagrossi as, in one embodiment, only the geometric layout of the keys and their numbering (row number and their number in row) may be utilized in processing.

BETTER ERGONOMICS - Because embodiments of the present invention allow easy creation of irregular high density keyboards it allows the powering of the very ergonomic thumb keyboard layout such as that depicted below.



Keyboards for dual thumb input

Embodiments of a layout such as these are fast, and put very little stress (making the user less prone to overuse syndromes) on the user thumbs as the layout uses the most natural movement of the thumbs.



The left direction of the keys in the above layout is easily activate by a slide that used the natural rotation movement of the thumb

As can be seen from that above arguments, Panagrossi does not disclose all the limitations of Claim 24 including the limitations that recite detecting a press in a first zone of a

set of zones, wherein at least one of the set of zones is non-contiguous with at least one other of the set of zones and at least one of the set of zones differs in shape from at least one other of the set of zones; detecting a release in a second zone of the set of zones and detecting a movement between the press and release, wherein detecting the movement further comprises detecting entering or leaving one or more of the set of zones between the press in the first zone and the release in the second zone and contact is maintained with the interface between the press in the first zone and the release in the second zone; and associating a semantic meaning with the input based on a set of semantic meanings associated with the first zone, wherein the semantic meaning is selected from the set of semantic meanings associated with the first zone based on the second zone.

Furthermore, it is respectfully submitted that Hinckley and Sirkin do not remedy these deficiencies.

Accordingly, Applicant respectfully requests the withdrawal of the rejection of Claim 24, similar Claim 27 and their respective dependent claims 25, 26 and 28-47.


Conclusion

Applicant has now made an earnest attempt to place this case in condition for allowance. Other than as explicitly set forth above, this reply does not include an acquiescence to statements, assertions, assumptions, conclusions, or any combination thereof in the Office Action. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully requests full allowance of Claims 24-47. The Examiner is invited to telephone the undersigned at the number listed below for prompt action in the event any issues remain.

The Director of the U.S. Patent and Trademark Office is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 50-3183 of Sprinkle IP Law Group.

Respectfully submitted,

Sprinkle IP Law Group
Attorneys for Applicant


Ari G. Akmal
Reg. No. 51,388

Date: 2-4, 2008
1301 W. 25th Street, Suite 408
Austin, TX 78705
Tel. (512) 637-9220, Fax. (512) 371-9088